

WAVELENGTH ROUTER WITH A TRANSMISSIVE DISPERSIVE ELEMENT

CROSS-REFERENCES TO RELATED APPLICATIONS

5 [01] This application is related to copending, commonly assigned U.S. Pat. Appl. No. 09/442,061 ("the '061 application"), entitled "Wavelength Router," filed November 16, 1999 by Robert T. Weverka *et al.*, ^{now U.S. P. No. 6,551,877} which is herein incorporated by reference in its entirety, including the Appendix, for all purposes.

BACKGROUND OF THE INVENTION

10 [02] This application relates generally to fiber-optic communications and more specifically to techniques and devices for routing different spectral bands of an optical beam to different output ports (or conversely, routing different spectral bands at the output ports to the input port).

15 [03] The Internet and data communications are causing an explosion in the global demand for bandwidth. Fiber optic telecommunications systems are currently deploying a relatively new technology called dense wavelength division multiplexing (DWDM) to expand the capacity of new and existing optical fiber systems to help satisfy this demand. In DWDM, multiple wavelengths of light simultaneously transport information through a single optical fiber. Each wavelength operates as an individual channel carrying a stream of data. The carrying capacity of a fiber is multiplied by the number of DWDM channels used. Today DWDM systems employing up to 80 channels are available from multiple manufacturers, with more promised in the future.

20 [04] In all telecommunication networks, there is the need to connect individual channels (or circuits) to individual destination points, such as an end customer or to another network. Systems that perform these functions are called cross-connects. Additionally, there is the need to add or drop particular channels at an intermediate point. Systems that perform these functions are called add-drop multiplexers (ADMs). All of these